ipd4200mdtxtsvdTES-10

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Software Version Description (SVD) for the
Textual Observation Database (MDTXT) Segment
of the
Tactical Environmental Support System Next Century
[TESS(NC)]
Meteorology and Oceanography (METOC) Database

Document Version 4.2

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1   SCOPE

1.1   Identification

This Software Version Description (SVD) describes the Textual Observation Database (MDTXT) segment, Version 4.1 series, of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database. MDTXT is a Defense Information Infrastructure (DII) Common Operating Environment (COE) *shared database* segment for the storage of textual METOC observations and bulletins. This software is designed to run under DII COE, release 3.1, on a Hewlett-Packard computer running HP-UX 10.20.

1.2   System Overview

The software described in this document forms a portion of the METOC Database component of the TESS(NC) Program (Navy Integrated Tactical Environmental Subsystem (NITES) Version I). On 29 October 1996, the Oceanographer of the Navy issued a TESS Program Policy statement in letter 3140 Serial 961/6U570953, modifying the Program by calling for five seamless software versions that are DII COE compliant, preferably to level 5.

The five versions are:

- NITES Version I   The local data fusion center and principal METOC analysis and forecast system (TESS(NC))

- NITES Version II   The subsystem on the Joint Maritime Command Information System (JMCIS) or Global Command and Control System (GCCS) (NITES/Joint METOC Segment (JMS))

- NITES Version III   The unclassified aviation forecast, briefing and display subsystem tailored to Naval METOC shore activities (currently satisfied by the Meteorological Integrated Data Display System (MIDDS))

- NITES Version IV   The Portable subsystem composed of independent PCs/workstations and modules for forecaster, satellite, communications, and Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance (IC4ISR) functions (currently the Interim Mobile Oceanographic Support System (IMOSS))

- NITES Version V   Foreign Military Sales (currently satisfied by the Allied Environmental Support System (AESS))
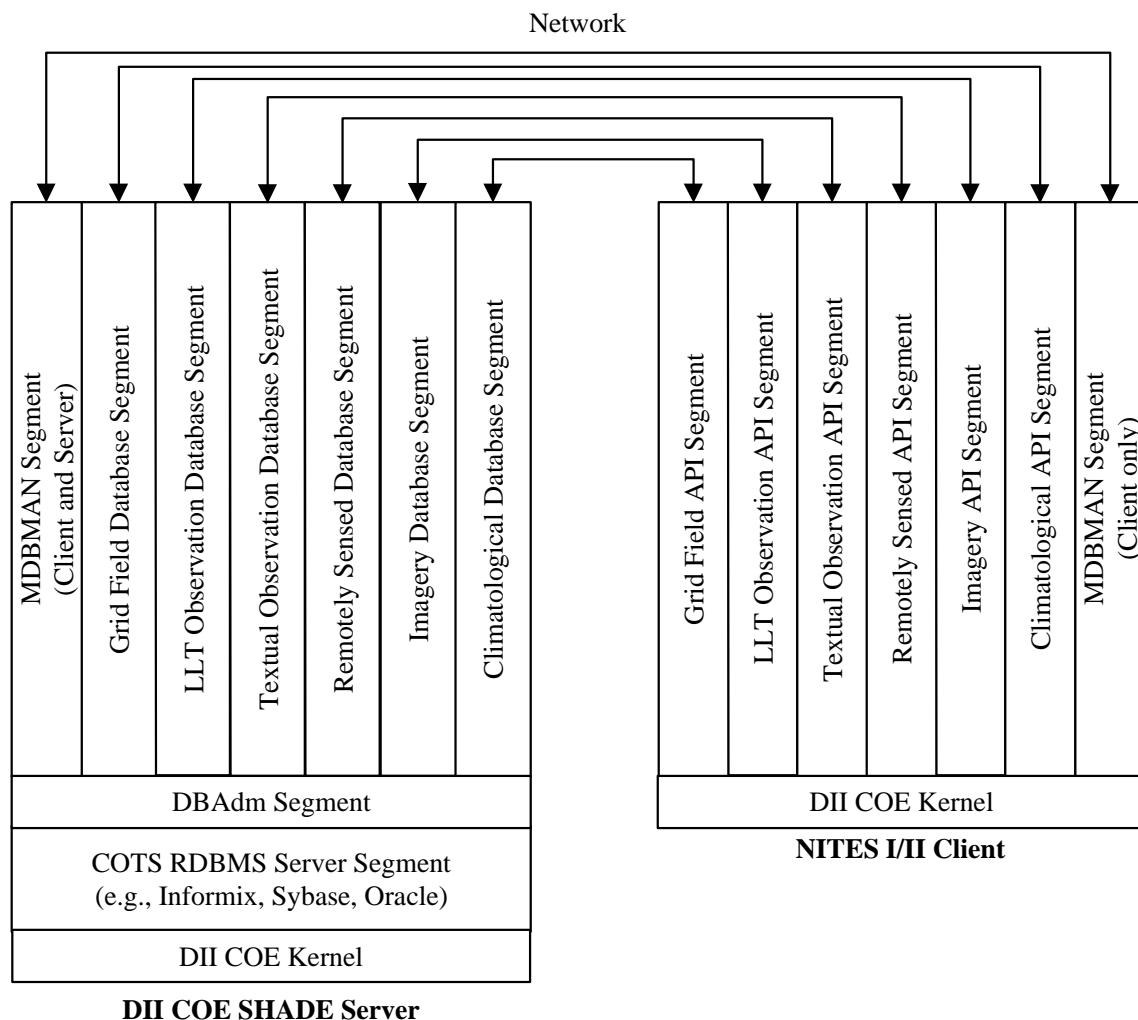
NITES I acquires and assimilates various METOC data for use by US Navy and Marine Corps weather forecasters and tactical planners. NITES I provides these users with METOC data, products, and applications necessary to support the warfighter in tactical operations and decision making. NITES I provides METOC data and products to NITES I and II applications, as well as non-TESS(NC) systems requiring METOC data, in a heterogeneous, networked computing environment.

The TESS(NC) Concept of Operations and system architecture require that the METOC Database be distributed both in terms of application access to METOC data and products and in terms of physical location of the data repositories. The organizational structure of the database is influenced by these requirements, and the components of this distributed database are described below.

In accordance with DII COE database concepts, the METOC Database is composed of six DII COE-compliant *shared database* segments. Associated with each shared database segment is an Application Program Interface (API) segment. The segments are arranged by data type as follows:

Data Type	Data Segment	API Segment
Grid Fields	MDGRID	MAGRID
Latitude-Longitude-Time (LLT) Observations	MDLLT	MALLT
Textual Observations and Bulletins	MDTXT	MATXT
Remotely Sensed Data	MDREM	MAREM
Imagery	MDIMG	MAIMG
Climatology Data	MDCLIM	MACLIM

A typical client-server installation is depicted in Figure 1-1 on the next page. This shows the shared database segments residing on a DII COE SHADE database server, with a NITES I or II client machine hosting the API segments. Communication between API segments and shared database segments is accomplished over the network using ANSI-standard Structured Query Language (SQL).

Network

Grid Field Database Segment

LLT Observation Database Segment

Textual Observation Database Segment

Remotely Sensed Database Segment

Imagery Database Segment

Climatological Database Segment

MDBMAN Segment
(Client and Server)

Grid Field API Segment

LLT Observation API Segment

Textual Observation API Segment

Remotely Sensed API Segment

Imagery API Segment

Climatological API Segment

MDBMAN Segment
(Client only)

DBAdm Segment

COTS RDBMS Server Segment
(e.g., Informix, Sybase, Oracle)

DII COE Kernel

DII COE Kernel

NITES I/II Client

DII COE SHADE Server

Figure 1-1. TESS(NC) METOC Database Conceptual Organization

The MDTXT segment deals with textual observations and bulletins. Textual observational data are primarily ASCII-formatted forecasts or bulletin/warning-oriented messages. Textual observation data can be associated with a specific geographic point and time, but more generally are associated with a geographical area or region. Types include Forecast Reports, Warnings, and Notices. Depending on the type of textual observation, the reporting station or organization and the area or region affected are decoded and stored along with the textual portion of the message. Textual observation data are typically displayed as text by a client application.

1.3   Product Information

1.3.1   Product Qualification

Test and Evaluation (T&E) of the software was performed at IPD's Middletown, RI facility prior to delivery of the software.

1.3.2   Product Restrictions

IPD's intellectual property rights to deliverables defined in this document are covered by the copyright license under the clause in DFARS 252.227-7013 (Nov 1995).

1.3.3   Product Dependencies

The MDTXT segment is hosted on the following hardware:

- Tactical Advanced Computer, TAC-3 (HP 750/755)/TAC-4 (HP J210)

The operating system requirements are:

- TAC-3/TAC-4: HP-UX 10.20

The kernel requirements are:

- Kernel 3.0.1.0 with patches through P4

The following software must be properly installed prior to loading the MDTXT segment:

- Appropriate operating system (as described above)
- Appropriate DII COE Kernel (as described above)
- DII COE Informix Connect Segment (INFXCN), version 1.0.1.0

2   REFERENCED DOCUMENTS

STANDARDS

MIL-STD-498   *Software Development and Documentation*
5 December 1994

SPECIFICATIONS

Unnumbered   *Performance Specification (PS) for the Tactical Environmental Support*
5 December 1997   *System/Next Century TESS(3)/NC (AN/UMK-3)*

Unnumbered   *Software Requirements Specification for the Tactical Environmental*
30 September 1997   *Support System/Next Century [TESS(3)/NC] Meteorological and*
                        Oceanographic (METOC) Database, Space and Naval Warfare Systems
                        Command, Environmental Systems Program Office (SPAWAR
                        PMW-185), Washington, DC

OTHER DOCUMENTS

Unnumbered   *Database Design Description for the Tactical Environmental*
30 September 1997   *Support System/Next Century [TESS(3)/NC)] Meteorological*
                        and Oceanographic (METOC) Database, Space and Naval
                        Warfare Systems Command, Environmental Systems
                        Program Office (SPAWAR PMW-185), Washington, DC

DII.COE.DocReqs-5   *Defense Information Infrastructure (DII) Common Operating*
29 April 1997   *Environment (COE) Developer Documentation*
                        Requirements, Version 1.0

ipd4300matxtrmTES-10   *Application Program Interface Reference Manual (APIRM)*
15 October 1998   *for the Textual Observation API (MATXT) Segment of the*
                        Tactical Environmental Support System Next Century
                        [TESS(NC)] Meteorology and Oceanography (METOC)
                        Database

ipd4300matxtpmTES-10
15 October 1998

Programming Manual (PM) for the Textual Observation API (MATXT) Segment of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database

ipd4300mdtxtipTES-10
15 October 1998

Installation Procedures (IP) for the Textual Observation Database (MDTXT) Segment of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database

DII.COE31.HP10.20.CIP
23 May 1997

DII COE V3.1 HP 10.20 Consolidated Installation Procedures

DII.3010.HP1020.KernelP1.IG-1
9 May 1997

DII COE Kernel 3.0.1.0P1 Patch 1 for HP-UX 10.20 Installation Guide

DII.3010.HP1020.KernelP2.IG-1
30 July 1997

DII COE Kernel 3.0.1.0P2 Patch 2 for HP-UX 10.20 Installation Guide

DII.3010.HP1020.KernelP3.IG-1
08 August 1997

DII COE Kernel 3.0.1.0P3 Patch 3 for HP-UX 10.20 Installation Guide

DII.3010.HP1020.KernelP4.IG-1
27 August 1997

DII COE Kernel 3.0.1.0P4 Patch 4 for HP-UX 10.20 Installation Guide

2.1   Non-Government Documents

World Meteorological Organization, Geneva, Switzerland

WMO-306

Manual On Codes

3   VERSION DESCRIPTION

3.1   Inventory of Materials Released

All physical media and associated documentation for the MDTXT segment are listed below.

- MDTXT segment v4.1.2.0 (HP-UX) Installation Tape (4mm DAT cartridge for TAC-3/TAC-4 hardware)

- MDTXT segment v4.1 series IP, dated 15 October 1998

- MDTXT segment v4.1 series SVD, dated 15 October 1998.

3.2   Inventory of Software Contents

A listing of all executables and environment files delivered is contained in Appendix A of this document.

3.3   Changes Installed

A listing of changes installed since the latest Preliminary Release of the MDTXT software is contained in Appendix B of this document.

3.4   Waivers

There are no waivers associated with this software.

3.5   Adaptation Data

There are no unique-to-site data contained in the MDTXT 4.1.2.0 release.

3.6   Installation Instructions

The MDTXT segment v4.1 series IP referenced in Section 2 of this document provide comprehensive installation instructions for the MDTXT segment. The fully installed segment occupies approximately 110 kb of disk space. The software requires a minimum of 128 MB of RAM, with 192 MB recommended.

3.7   Possible Problems and Known Errors

Known problems and errors with the MDTXT software are listed in Appendix C of this document.

4   NOTES

4.1   Glossary of Acronyms

AESS   Allied Environmental Support System

API   Application Program Interface

APIRM   API Reference Manual

COE   Common Operating Environment

DII   Defense Information Infrastructure

GCCS   Global Command and Control System

IC4ISR   Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance

IMOSS   Interim Mobile Oceanographic Support System

INFXCN   Informix Connect Segment

IP   Installation Procedures

JMCIS   Joint Maritime Command Information System

JMS   Joint METOC Segment

LLT   Latitude-Longitude-Time

MATXT   Textual Observation API Segment of the TESS(NC) METOC Database

MDTXT   Textual Observation Database Segment of the TESS(NC) METOC Database

METOC   Meteorology and Oceanography

MIDDS   Meteorological Integrated Data Display System

NITES   Navy Integrated Tactical Environmental Subsystem

PM   Programming Manual

PS   Performance Specification

PTR   Program Trouble Report

SQL   Structured Query Language

SVD   Software Version Description

T&E   Test and Evaluation

TESS(NC)   Tactical Environmental Support System Next Century

Appendix A -   List of Executables and Environment Files

A.1   File Structure for HP-UX Delivery

```
/h/MDTXT
total 12
drwxrwxrwx   2 sysadmin    COE     1024   Oct 13 23:10  Scripts
drwxrwxrwx   2 sysadmin    COE     1024   Oct 13 23:10  data
drwxrwxrwx   2 sysadmin    COE     1024   Oct 13 23:10  bin
drwxrwxrwx   3 sysadmin    COE     1024   Oct 13 23:10  install
drwxrwxr-x   2 313         COE     1024   Oct 13 23:10  Integ
drwxrwxr-x   2 313         COE     1024   Oct 14 00:38  SegDescrip

/h/MDTXT/Scripts
total 0

/h/MDTXT/data
total 4
-r--r--r--   1 sysadmin    COE        0   Oct  2 16:42  MDTXT_Obs.txt
-r--r--r--   1 sysadmin    COE       99   Oct  2 16:42  MDTXT_Types.txt
-r--r--r--   1 sysadmin    COE      933   Oct  2 16:42  MDTXT_SubTypes.txt

/h/MDTXT/bin
total 2
-r-xr-xr-x   1 sysadmin    COE      263   Oct  2 16:42  MDTXTGetDBSize

/h/MDTXT/install
total 8
-r-xr-xr-x   1 sysadmin    COE     1596   Oct  2 16:42  install_mdtxt
-r-xr-xr-x   1 sysadmin    COE      518   Oct  2 16:42  deinstall_mdtxt
drwxrwxrwx   2 sysadmin    COE     1024   Oct 13 23:10  sql

/h/MDTXT/Integ
total 2
-rw-rw-r--   1 313         COE      354   Oct  2 16:42  VSOutput

/h/MDTXT/SegDescrip
total 24
-rwxr-xr-x   1 313         COE     2130   Oct  2 16:42  PostInstall
-rw-r--r--   1 313         COE      488   Oct  2 16:42  ReleaseNotes
-rw-r--r--   1 313         COE      297   Oct  2 16:42  SegName
-rw-r--r--   1 313         COE       27   Oct  2 16:42  VERSION
-rwxr-xr-x   1 313         COE      199   Oct  2 16:42  PreInstall
-rwxr-xr-x   1 313         COE      725   Oct  2 16:42  DEINSTALL
-rw-rw-r--   1 313         COE      685   Oct  2 16:42  FileAttribs
-rw-r--r--   1 313         COE      249   Oct  5 21:19  SegInfo
-rw-rw-rw-   1 root        COE      129   Oct  5 21:20  Validated
-rw-rw-rw-   1 root        other    141   Oct 13 23:13  Installed

/h/MDTXT/install/sql
total 34
-r-xr-xr-x   1 sysadmin    COE     2259   Oct  2 16:42  MDTXT_Types_scripts
-r-xr-xr-x   1 sysadmin    COE     2529   Oct  2 16:42  MDTXT_SubTypes_scripts
-r-xr-xr-x   1 sysadmin    COE     2467   Oct  2 16:42  mdtxt_cds_scripts
-r-xr-xr-x   1 sysadmin    COE     3179   Oct  2 16:42  MDTXT_OBS_scripts
-r--r--r--   1 sysadmin    COE       81   Oct  2 16:42  MDTXT_Types.cmd
-rw-r--r--   1 sysadmin    COE       10   Oct  2 16:42  mdtxt_drop_file_inf
```

```
-r--r--r--   1 sysadmin   COE        87  Oct  2 16:42 MDTXT_SubTypes.cmd
-rw-r--r--   1 sysadmin   COE        18  Oct 13 23:12 mdtxt_create_file_inf
```

Appendix B -   Changes/Updates Since Preliminary Release

This release made the following change:

Pri	PTR #	Summary
2	92	DII COE requires minimal permission settings for segment directories/files.
4	208	Add new type/subtypes.

Appendix C -   Known Problems and Errors

Pri	PTR #	Summary
4	51	The present DBAdminR tool set does not allow for full DII COE Level 5 compliance due to the database development is limited to the informix.

A detailed Program Trouble Report (PTR) is contained on the following pages.